

U.S.S.N. 09/779,427

Filed: February 8, 2001

**AMENDMENT AND RESPONSE TO OFFICE ACTION**

- (G) 3-hydroxybutyric acid, 3-hydroxyvaleric acid, 3-hydroxy-heptanoic acid and 4-hydroxyheptanoic acid;
- (H) 3-hydroxybutyric acid, 3 hydroxyvaleric acid, 3-hydroxyhexanoic acid, 3-hydroxyoctanoic acid, and 4-hydroxyoctanoic acid;
- (I) 3-hydroxybutyric acid, 3-hydroxyhexanoic acid and 4-hydroxyhexanoic acid; and
- (J) 3-hydroxybutyric acid, and 5-hydroxyhexanoic acid.

**Remarks**

Claims 1-18 have been amended. Claims 37-42 have been added.

The present invention is directed to a process for the preparation of poly(hydroxy fatty acids) using recombinant bacteria containing at least one fragment of the poly(hydroxy fatty acid) synthase gene from *Thiocapsa pfennigii*. The recombinant bacteria are grown with an appropriate carbon source as a substrate and then the poly(hydroxy fatty acids) are extracted.

**Objected to Declaration**

An executed supplemental oath/declaration of Dr. Mathias Leibergesell is enclosed in accordance with 37 C.F.R. 1.67(a)(2).

**Objections to Specification and Claims**

The specification has been amended to correct errors in labeling of plasmid pHP1014::156. Claims 1-18 have been amended to include an article "A" or "The" at the beginning of the claims to give proper antecedent basis.

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**AMENDMENT AND RESPONSE TO OFFICE ACTION****Rejection Under 35 U.S.C. § 112, first paragraph**

Claims 1-18 were rejected under 35 U.S.C. § 112, first paragraph, as not being enabled.

Applicants respectfully traverse this rejection to the extent that it is applied to the claims as amended.

The amended claims no longer recite the limitation of the specific bacterial strains and plasmids including: *Pseudomonas putida* GPp104 (pHP1014::E156), *Pseudomonas putida* GPp104 (pHP1014::B28+), *Alcaligenes eutrophus* PHB 4(pHP1014::E156), and *Alcaligenes eutrophus* PHB 4(pHP1014::B28+).

The claims now clearly define the claimed subject matter as any bacteria encoding and expressing the gene encoding the PHA synthase from *Thiocapsa pfennigi*. The DNA and protein sequences of PHA synthase from *Thiocapsa pfennigi* are disclosed in Figure 1 of the specification. One of skill in the art would be sufficiently enabled to use available methods to express this enzyme in organisms such as *P. putida* and *A. eutrophus* for PHA synthesis. Methods for growth, addition of the appropriate carbon source and isolation of the polymer are also known in the art. Therefore, the process as defined by the amended claims, is enabled.

**Rejection Under 35 U.S.C. § 112, second paragraph**

Claims 1-18 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Applicants respectfully traverse this rejection to the extent that it is applied to the claims as amended.

The Examiners suggested amendments to Claims 1-18 have been incorporated to more clearly define the claimed subject matter.

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Claim 1 has been amended to remove indefinite terms such as "as the case may be", "its derivatives, "its", and "a certain time". The Markush group of claim 1 has been amended to clearly list the substrate carbon sources.

Claim 3 has been amended to remove specific reference to "glucose and fructose" and recite only the group "hexoses" that was originally present.

Claims 3 and 18 have been amended to replace the term "a group comprising" to "a group consisting".

Claims 3, 9, 11, 12 and 14 have been amended to remove narrower range limitation and the narrower ranges have been recast as new dependent claims 37-42.

Claims 6, 11, and 12 have been amended to remove the word "preferably".

Claims 7, 12, and 13 have been amended to replace the terms "cultivated"/ "cultivating" with "incubated"/ "incubating".

Claim 9 has been amended to replace the term "uses" with the term "offers" in accordance with claim 1.

Claim 11 has been amended to remove the term "in each case".

Claim 12 has been amended to remove the term "especially".

Claim 14 has been amended to remove the term "and/or".